

**Notice of Allowability**

Application No.

10/646,892

Examiner

David A. Rogers

Applicant(s)

MAEDA, HITOSHI

Art Unit

2856



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 28 September 2005.
2. ☒ The allowed claim(s) is/are 1-4.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1-4 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The prior art teaches several types of measuring devices including atomic force microscopes, scanning probe microscopes, scanning capacitance microscopes, etc.

The applicant distinguishes "wiring" from "coatings" or "films" in their specification. See, for example, the applicant's reference to the prior art where coatings are provided on an entire surface of the tip. See also the specification where the applicant states that their wiring that offers improved surface resolution, and cites an example where the wiring is about 20 nm wide and does not "coat" the entire surface of the tip.

The reference "Scanning Capacitance Microscopy" to Matey *et al.* teaches a stylus with an electrode as shown in figure 2. Matey *et al.* teaches that the electrode reaches to within 20 nm from the bottom of the stylus. Matey *et al.* does not suggest an electrode that reaches the bottom of the stylus.

United States Patent 5,461,907 to Tench *et al.* teaches a cantilever as shown in figure 2A. The cantilever comprises an insulator tip (reference item 13') with a gold coating (reference item 18). Tench *et al.* does not teach or suggest a conductive wiring.

United States Patent 5,166,520 to Prater *et al.* teaches a cantilever comprising a central hole in an insulator tip (reference item 12). This hole is filled with conductive material (reference item 20) that is coupled to an electrode part (reference item 22). Prater *et al.* also does not teach or suggest a wiring on a solid tip that leads to the electrode.

United States Patent Application Publication 2004/0065818 to Hong *et al.* teaches a cantilever structure as seen in figures 4a and 4b. The cantilever's tip is shown as having two doped regions. These regions cover a substantial portion of the tip and do not form a "wire" as claimed by the applicant. In figure 4B there is also shown a doped resistive portion R on the tip. This portion is a non-conduction region.

United States Patent Application Publication 2004/0074288 to Shirakawabe *et al.* teaches a cantilever (reference item 1) having a tip-type structure (reference item 11) as seen in figures 7B, 7C, 7E, and 7G. The cantilever/tip is also shown as comprising a plurality of electrodes (reference item 6) extending from the tip to the base of the cantilever. This is distinct from the applicant's device where only a single electrode is disclosed and claimed. Furthermore, Shirakawabe *et al.* has a U.S. filing date later than the applicant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


**Conclusion**

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Rogers whose telephone number is (571) 272-2205. The examiner can normally be reached on Monday - Friday (0730 - 1600).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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06 October 2005

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800